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10/669,446	09/25/2003	Shinichi Satoh	OKI.578	4261

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EXAMINER

SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
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2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/669,446

Applicant(s)

SATOH, SHINICHI

Examiner

Leonid Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6-8 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-8,11-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2,6-8,11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (US patent No. 6,617,801 B2) in view of Tsuji (US Patent No. 6,545,652 B1).

As to claim 1, Ishizuka et al. teaches a method of driving a display panel made up of (n x m) ,display elements respectively disposed at different crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines (See Fig. 3, items A1-Am, B1-Bm, E11-Emn, Col. 1, Lines 53-67).

Ishizuka et al. does not disclose variably controlling a constant current value for driving the respective data lines, wherein said variably controlling a constant current value is implemented by comparing a voltage of the respective data lines with a reference voltage.

Tsuji teaches variably controlling a constant current value for driving the respective data lines, wherein said variably controlling a constant current value is implemented by comparing a voltage of the respective data lines with a reference voltage (See Fig. 2, items 34-35, Col. 7, Lines 49-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Tsuji into Ishizuka et al. system in order

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to correct image data amplitude to compensate for light emission characteristic differences (See Col. 2, Lines 17-20 in the Tsuji reference).

As to claims 2,8,13 Tsuji teaches variably controlling a constant current value by comparing a voltage of the respective data lines (in the reference pixel level data) with reference voltage (See Fig. 2, items 31-35, Col. 7, Lines 49-65).

As to claim 7, Ishizuka et al. teaches A drive of a display panel for driving (n x m) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines (See Fig. 3, items A1-Am, B1-Bm, E11-Emn, Col. 1, Lines 53-67), said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side (See Fig. 3, item 14, Col. 2, Lines 1-24);

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential (See Fig. 3, item 13, Col. 2, Lines 1-24);

driving means for controlling the first switching means and second switching means corresponding to input data (See Fig. 3, item 12, Col. 2, Lines 1-24).

Ishizuka et al. does not disclose comparison means provided in each of the data lines, for outputting a control signal by comparing a reference voltage

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from reference voltage generation means with a potential of the respective data lines, and current control means for controlling a current of the variable current source provided in each of the data lines based on results of comparison executed by the respective comparison means.

Tsuji teaches comparison means provided in each of the data lines, for outputting a control signal by comparing a reference voltage from reference voltage generation means with a potential of the respective data lines, and current control means for controlling a current of the variable current source provided in each of the data lines based on results of comparison executed by the respective comparison means (See Fig. 2, items 34-35, Col. 7, Lines 49-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Tsuji into Ishizuka et al. system in order to correct image data amplitude to compensate for light emission characteristic differences (See Col. 2, Lines 17-20 in the Tsuji reference).

As to claims 6,11, Ishizuka et al. teaches organic EL elements (See Col. 5, Lines 51-52).

As to claim 12, Ishizuka et al. teaches a drive of a display panel for driving (n x m) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the

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respective scanning lines (See Fig. 3, items A1-Am, B1-Bm, E11-Emn, Col. 1, Lines 53-67), said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side (See Fig. 3, item 14, Col. 2, Lines 1-24);

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential (See Fig. 3, item 13, Col. 2, Lines 1-24);

a drive control circuit for controlling the first switching means and second switching means corresponding to input data (See Fig. 3, item 12, Col. 2, Lines 1-24).

Ishizuka et al. does not disclose comparator provided in each of the data lines, for outputting a control signal by comparing a reference voltage from reference voltage generation means with a potential of the respective data lines, and current control circuit provided for each of the data lines, the current control circuit for controls a current of the variable current source provided in each of the data lines based on results of comparison executed by the respective comparators.

Tsuji teaches comparator provided in each of the data lines, for outputting a control signal by comparing a reference voltage from reference voltage generation means with a potential of the respective data lines, and current control circuit provided for each of the data lines, the current control circuit for controls for controlling a current of the variable current source provided in each of

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the data lines based on results of comparison executed by the respective comparators (See Fig. 2, items 34-35, Col. 7, Lines 49-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Tsuji into Ishizuka et al. system in order to correct image data amplitude to compensate for light emission characteristic differences (See Col. 2, Lines 17-20 in the Tsuji reference).

### ***Response to Arguments***

3. Applicant's arguments filed 02/27/07 have been fully considered but they are not persuasive.

On page 8, last paragraph of Remarks in relation to claim 1, Applicant's stated that the Examiner has apparently interpreted counter 33 in Fig. 2 of the Tsuji reference as providing a reference voltage to comparators 34. However, Tsuji stated: "The data comparators compare pixel level data with value output from a counter 33 clocked by a pixel level reference clock..." (col. 7, lines 59-61). Then, Applicant's confirmed that each of comparators 34 of the Tsuji reference compare an output data from a corresponding one of memory circuits 32 with an output value from counter 33, to thereby control the flow of constant current in each current line for a driver pulse width interval corresponding to the pixel level data value. After that, in 1<sup>st</sup> paragraph of Remarks, Applicant's have asserted that comparators receive from counter 33 a variable value, not a reference value. However, Tsuji reference nowhere stated that output from counter is a variable

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value. As well known by one of ordinary skill in the art, comparator input could not be a clocked variable value.

Notice, that in the Tsuji pixel level data and reference constant value (value output from a counter) **for each pixel** is supplied from shift register, latch and counter using pixel level data clock and pixel level reference clock.

The same arguments will apply to independent claims 7 and 12.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Telephone Inquire***




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
05.16.07



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